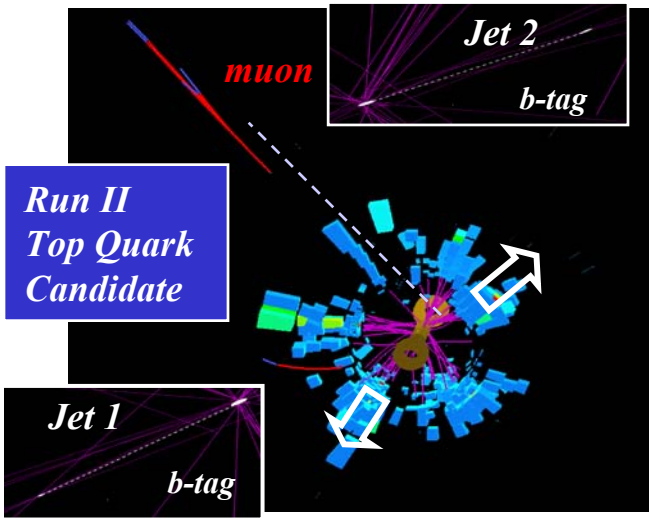
The D-Zero Experiment at Fermilab

Who are we?

D-Zero is an international collaboration of roughly 650 university scientists and students from 18 nations who have pooled their resources to build and operate a decade-long scientific experiment at Fermilab in Illinois, the world's highest energy particle accelerator.



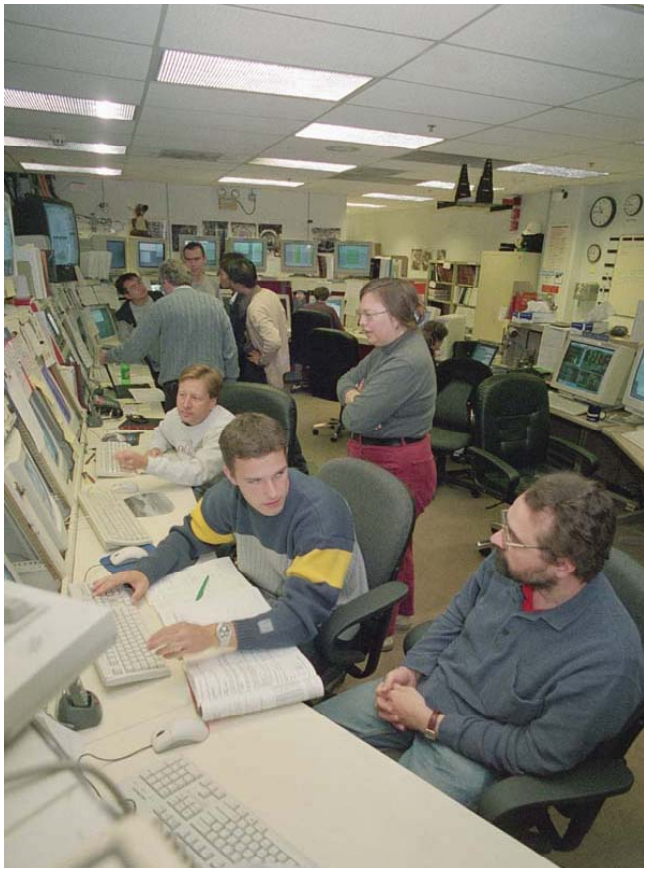
What are we doing?

The goal of the experiment is to better understand the basic recipe for the way the universe is built. If you wanted to make this universe, how many dimensions of space and time would you need, what kinds of forces and particles would you put in, and how?

To answer these questions we collide protons and antiprotons at very high energies, and use a sensitive array of instrumentation to study the high energy particles that are made in these collisions.

How does this help education?

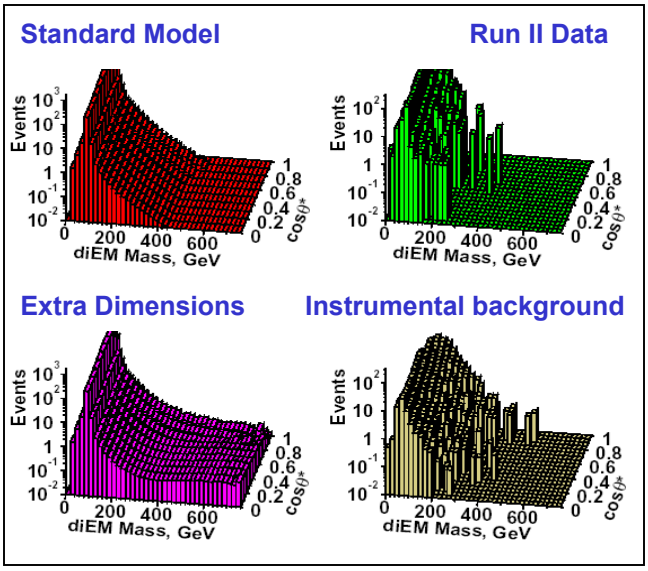
Young scientists are an integral part of the project and play key leadership roles. Almost a quarter of the physicists working on the experiment are doing research towards a Ph.D. degree at one of our member universities in the US, Europe, Latin America and Asia. Over a hundred such projects have been completed so far. Most of the these students have gone on to postdoctoral fellowships, followed by careers in academia, research laboratories across the world, industries ranging from biomedical research to information technology, the financial and legal professions, and government.



How does this help international relations?

Roughly half of the collaboration comes from US universities and half from overseas. Working together with a common goal, young researchers find they have much to learn from each other. Traditional barriers are broken down. The opportunity to experience America first hand and to be part of an open, world class research project changes preconceptions and builds a very positive image of what the nation stands for.

We collaborate with universities in Argentina, Brazil, China, Colombia, the Czech Republic, Ecuador, France, Germany, India, Ireland, Korea, Mexico, the Netherlands, Russia, Sweden, the U.K., and Vietnam.



What use is this knowledge?

Firstly, our experiments need **cutting edge technology and computing** and so we push forward R&D in many fields (the World Wide Web was first developed to share data in particle physics). Secondly, the **physics we uncover will be the basis for technologies** in the 22nd century. Thirdly, and most importantly to us as scientists, is simply the human desire to **explore and understand the universe we live in.**

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